This Class 360 is considered to be an integral part of Class 369 (see the Class 369 schedule for the position of this Class in schedule hierarchy). This Class retains all pertinent definitions and class lines of Class 369.

1 **RECORDING ON OR REPRODUCING FROM AN ELEMENT OF DIVERSE UTILITY**
2 .Card
3 .Motion picture film
4 **MANUAL INPUT RECORDING**
5 **RECORDING FOR SELECTIVE RETENTION OF A SPECIAL OCCURRENCE**
6 **RECORDING COMBINED WITH METERING OR SENSING**
7 **RECORDING FOR MONETARY DELAY OF AN ANALOG SIGNAL**
8 **RECORDING FOR CHANGING DURATION, FREQUENCY OR REDUNDANT CONTENT OF AN ANALOG SIGNAL**
12 **RECORDING OR REPRODUCING FOR AUTOMATIC ANNOUNCING**
13 **RECORD EDITING**
15 **RECORD COPYING**
16 .Contact transfer
17 ..With magnetic bias
18 **RECORDING OR REPRODUCING PLURAL INFORMATION SIGNALS ON THE SAME TRACK**
20 .Frequency multiplex
21 .Head gap azimuth multiplex
22 **SPLITTING ONE INFORMATION SIGNAL FOR RECORDING ON PLURAL DISTINCT TRACKS OR REPRODUCING SUCH SIGNAL**
23 .Time division
24 **SPLITTING, PROCESSING AND RECOMBINING ONE INFORMATION SIGNAL FOR RECORDING OR REPRODUCING ON THE SAME TRACK**
25 **CHECKING RECORD CHARACTERISTICS OR MODIFYING RECORDING SIGNAL FOR CHARACTERISTIC COMPENSATION**
26 **ELECTRONICALLY CORRECTING PHASING ERRORS BETWEEN RELATED INFORMATION SIGNALS**
27 **RECORDING OR REPRODUCING AN INFORMATION SIGNAL AND A CONTROL SIGNAL FOR CONTROLLING ELECTRONICS OF REPRODUCER**
28 .Reference carrier to control demodulator
29 **MODULATING OR DEMODULATING**
30 .Frequency
31 **MONITORING OR TESTING THE PROGRESS OF RECORDING**
32 **CONVERTING AN ANALOG SIGNAL TO DIGITAL FORM FOR RECORDING; REPRODUCING AND RECONVERTING**
39 **GENERAL PROCESSING OF A DIGITAL SIGNAL**
40 .In specific code or form
41 ..Nonreturn to zero
42 ..Phase code
43 ..Multi-frequency
44 ..Intra-cell transition
45 .Pulse crowding correction
46 .Head amplifier circuit
47 .Redundant or complimentary tracks
48 .Data in specific format
49 .Address coding
50 .Inter-record gap processing
51 .Data clocking
52 ..With incremental movement between record and head
53 .Data verification
54 .Data recirculation
55 **GENERAL RECORDING OR REPRODUCING**
57 .Selective erase recording
58 .Boundary displacement recording or transducers
59 .Thermomagnetic recording or transducers
60 .Recording-or erasing-prevention
61 .Signal switching
62 ..Record-reproduce
63 ..Between plural stationary heads
64 ..Between heads in alternate engagement with medium
65 .Specifics of equalizing
66 .Specifics of biasing or erasing
67 .Specifics of the amplifier
68 ..Recording amplifier
69 **AUTOMATIC CONTROL OF A RECORDER MECHANISM**
70 .Synchronizing moving-head moving-record recorders
71 .Controlling the record

72.1 ..Locating specific areas
72.2 ...Responsive to recorded address
72.3 ...Responsive to tape transport
73.01 ..Speed
73.02 ...Control of relative speed between carriers
73.03 ...Rotary carrier
73.04 ...Linear carrier
73.05 ....Plural speed transport
73.06 .....Automatic change between fixed speeds
73.07 .....Automatic selection of carrier or track speed
73.08 .....Variable speed
73.09 ....Constant speed
73.11 .....By reproduced control signal and transport derived signal
73.12 .....By reproduced control signal
73.13 ......From separate track
73.14 .....By signal derived from transport
74.1 ..Stopping or reversing
74.2 ...Responsive to reel rotation
74.3 ...Responsive to tape tension
74.4 ...Responsive to magnetic recorded signals
74.5 ...Responsive to physical property of record
74.6 ....Photoelectric
74.7 ....Conductive
75 .Controlling the head
76 ..Azimuth or skew
77.01 ..Track centering
77.02 ...Rotary carrier
77.03 ....By nonmagnetic sensing (e.g., optical, capacitive)
77.04 ....By memory storage of repeatable error or correction
77.05 ....By servo signal component from carrier surface separate from information signal bearing surface
77.06 ....Reproduced data signal used for tracking
77.07 ....By tracking signal recorded on or immediately beneath surface
77.08 .....Distinct servo sector
77.11 .....Continuous servo signal
77.12 ...Elongated web carrier (i.e., tape)
77.13 ....Transverse scan path
77.14 .....By pilot signal
77.15 ......Plural pilot signals along single transverse path
77.16 .....Having head deflection drive (e.g., piezoelectric bimorph)
77.17 ......Dithering
78.01 ..Track changing
78.02 ...Tape
78.03 ....Plural tapes
78.04 ...For rotary carrier (e.g., disc)
78.05 ....Coarse and fine head drive motors
78.06 ....Specified velocity pattern during access
78.07 .....Controlled by memory device
78.08 ....Specified spatial pattern during access
78.09 ....Including model of servo system or element
78.11 ....Including nonmagnetic position sensing
78.12 ....Including particular head actuator
78.13 .....Stepping motor
78.14 ....By recorded servo reference or address signal
78.15 ....Drum
79 **RECORDER CONTROL OF AN EXTERNAL DEVICE**
80 .Slide or movie projectors
81 **RECORD TRANSPORT WITH HEAD MOVING DURING TRANSDUCING**
82 .Belt record
83 .Tape record
84 ..Rotating head
85 ...Tape in container
86 .Disk record
87 .Drum record
88 **RECORD TRANSPORT WITH HEAD STATIONARY DURING TRANSDUCING**
89 .Wire record
90 .Tape record
91 ..Plural tapes
92 ...Tape in container
93 ..Tape in container
94 ...Transport accommodates different types
95 ...With tape extraction
96.1 ...Plural reels
96.2 ....With dual capstan drive
96.3 ....Reel drive details
96.4 .....With common capstan drive
96.5 ....Container mounting details

96.6 .....With pivotal holder
97.01 .Disk record
97.02 ..Environmental control (e.g., air filter, temperature control)
97.03 ...Plural disks
97.04 ...Flexible disk
98.01 ..Plural disks
98.02 ...Axially fixed flexible disks
98.03 ....With pneumatic partioning of disks
98.04 ...Changer
98.05 ....Control detail
98.06 ....Mechanical detail
98.07 ...Rotational drive detail
98.08 ...Seating of disks
99.01 ..Flexible disk
99.02 ...Loading or ejecting mechanism
99.03 ....Motorized
99.04 ...Rotational drive detail
99.05 ...Disk seating
99.06 ..Loading or ejecting mechanism
99.07 ...Motorized
99.08 ..Rotational drive detail
99.09 ...Movable drive
99.11 ...Stationary drive
99.12 ..Disk seating
100.1 .Drum record
101 **HEAD TRANSPORT WITH RECORD STATIONARY DURING TRANSDUCING**
220 **FLUID BEARING RECORD SUPPORT**
221 .Tape record
221.1 ..Liquid bearing
224 .Disk record
230 **FLUID BEARING HEAD SUPPORT**
231 .Tape record
234 .Disk record
234.1 ..Liquid bearing
234.2 ..Flexible disk
234.3 ..Air bearing slider detail
234.4 ...IC/circuit component on slider
234.5 ...Electrical attachment of slider/head
234.6 ...Mechanical attachment of slider to its support
234.7 ...Head attachment to slider
234.8 ....On/in side of slider
234.9 ....In slot of rail
235 ....Signal winding mount/access detail
235.1 ...Slider material
235.2 ....Rail material
235.3 ....Body material
235.4 ...Air bearing surface detail
235.5 ....Negative pressure type
235.6 .....Leading end detail
235.7 .....Trailing end detail
235.8 .....Rail surface detail
235.9 .....Rail side edge detail
236 .....Cross rail detail
236.1 .....Varying width rail
236.2 .....Asymmetrical rail arrangement
236.3 .....Three or more rails/pads
236.4 ....Leading end detail
236.5 ....Trailing end detail
236.6 ....Rail surface detail
236.7 ....Rail side edge detail
236.8 ....Varying width rail
236.9 ....Asymmetrical rail arrangement
237 ....Three or more rails/pads
237.1 ....Partial contact
240 **HEAD MOUNTING**
250 .For moving head into/out of transducing position
251 ..Tape record having arcuate head retraction movement
251.1 ..Tape record having linear head retraction movement
251.2 ...Driven by tape driver
251.3 ...Cam type
251.4 ...Solenoid type
251.5 ...Rotary head type
254 ..Disk record
254.1 ...Flexible disk
254.2 ...Arcuate track change type
254.3 ....Moving lifter
254.4 .....Lifter surface detail
254.5 .....Adjustment detail
254.6 .....Actuator side detail
254.7 ....Fixed lifter
254.8 .....Lifter surface detail
254.9 .....Adjustment detail
255 .....Actuator side detail
255.1 ...Linear track change type
255.2 ....Moving lifter
255.3 .....Lifter surface detail
255.4 .....Adjustment detail
255.5 .....Actuator side detail
255.6 ....Fixed lifter
255.7 .....Lifter surface detail
255.8 .....Adjustment detail
255.9 .....Actuator side detail
256 ...Latch
256.1 ....Air vane
256.2 ....Magnetic
256.3 ....Electrically driven
256.4 ....Inertial

256.5 ....Plural latches
256.6 ....Adjustment detail
260 .For shifting head between tracks
261 ..Tape record having rotary head movement
261.1 ..Tape record having linear head movement
261.2 ...Cam
261.3 ...Screw
264 ..Disk record
264.1 ...Arcuate head movement
264.2 ....Electrical connection detail onto actuator arm
264.3 ....Driver detail
264.4 .....Independent head movement
264.5 .....Plural drivers for each head
264.6 .....Band
264.7 .....Voice coil
264.8 ......Core detail
264.9 ......Magnet detail
265 ......Winding detail
265.1 ....Limiter/stop
265.2 ....Bearing
265.3 .....Seal
265.4 .....Radial
265.5 .....Thrust
265.6 .....Mounting detail
265.7 ....E block detail
265.8 .....Detail of coil support
265.9 .....Detail of actuator arm supporting head suspension
266 ......Arm shape
266.1 ......Arm mounting
266.2 ...Linear head movement
266.3 ....Electrical connection detail onto actuator arm
266.4 ....Voice coil
266.5 .....Carriage detail
266.6 ......Guide detail
266.7 .....Core detail
266.8 .....Magnet detail
266.9 .....Winding detail
267 ....Band
267.1 ....Cam
267.2 ....Rack
267.3 ....Screw
267.4 .....Screw/follower detail
267.5 .....Carriage detail
267.6 ......Guide detail
267.7 .....Screw mount detail
267.8 ......Adjustable
267.9 ...Including shifting head to different disks
270 .For moving head during transducing
271 ..Tape record having rotary head
271.1 ...Rotating drum
271.2 ....Axle bearing
271.3 .....Hydrodynamic
271.4 ....Axle seal
271.5 ....Head mount to drum
271.6 ....Drum mounting
271.7 ....Drum motor
271.8 ...Stationary drum
271.9 ....Electrical connection detail
272 ...Power supply
281 ...Signal transfer to/from head
281.1 ....Transformer mounting detail
281.2 ....Transformer axis parallel to axis of head rotation
281.3 ....Transformer axis perpendicular to axis of head rotation
281.4 ....Coil/winding detail
281.5 ....Core detail
281.6 ....Electrical or magnetic shielding
281.7 ....Electrical connection between head and rotary part of transformer
281.8 ....Plural transformers
281.9 ....Photoelectric
282 ....Contact type transformer
274 ..Disk record
290 .For adjusting head position
291 ..Tape record
291.1 ...Cam adjuster
291.2 ...Screw adjuster
291.3 ....Plural screws
291.4 ...Rotary head
291.5 ....Adjustment of drum axis
291.6 ....Adjustable head mount
291.7 .....Adjuster core detail
291.8 .....Adjuster coil detail
291.9 .....Piezoelectric adjuster
292 ......Plural piezoelectric adjusters
294 ..Disk record
294.1 ...Adjustment parallel to disk plane
294.2 ....Linear adjustment
294.3 ....Driver detail
294.4 .....Piezoelectric adjuster
294.5 .....Voice coil adjuster
294.6 ....Pivot structure detail
294.7 ...Adjustment along rotational axis of disk

241 .Tape record
241.1 ..Plural head mounting on only one tape side
241.2 ..Plural head mounting on opposite tape sides
241.3 ..Head urging detail
244 .Disk record
244.1 ..IC/circuit component on suspension element
244.2 ..Load beam detail
244.3 ...Laminated beam
244.4 ...Nonmetallic beam
244.5 ...Actuator mount region detail
244.6 ....Ball staking
244.7 ....Adhesive
244.8 ...Spring region detail
244.9 ...Rigid intermediate section detail
245 ...Gimbal mounting region detail
245.1 ....Pivot/load button detail
245.2 ...Assembly feature
245.3 ..Gimbal detail
245.4 ...Attachment detail
245.5 ...Integral with load beam
245.6 ...Plural axis components
245.7 ...Motion limiter detail
245.8 ..Electrical connection detail
245.9 ...Flexible printed circuit type
246 ...Noise reduction
246.1 ..Full contact suspension
246.2 ...Slider detail
246.3 ...Pivot detail
246.4 ...Gimbal detail
246.5 ...Single head
246.6 ..Plural heads for each disk side
246.7 ...Plural actuators
246.8 ..Offset heads on opposite sides of disk

110 **HEAD**
111 .Flux gate
112 .Hall effect
313 .Magnetoresistive (MR) reproducing head
314 ..Having multiple interconnected multiple film MR sensors (e.g., dual spin valve magnetoresistive sensor)
315 ..Having multiple interconnected single film MR sensors (e.g., dual magnetoresistive sensor)
316 ..Having multiple independent MR sensors
317 ..Combined with inductive write head in piggyback/merged configuration
318 ..Combined with inductive write head and having MR inside of inductive head
318.1 ...In horizontal head configuration
319 ..Detail of magnetic shielding
320 ..Detail of head insulation
321 ..Having flux guide detail
322 ..Detail of sense conductor
323 ..Electrostatic Discharge (ESD) protection
324 ..Having Giant Magnetoresistive (GMR) or Colossal Magnetoresistive (CMR) sensor formed of multiple thin films
324.1 ...Having one film pinned (e.g., spin valve)
324.11 ....Detail of pinned film or additional film for affecting or biasing the pinned film
324.12 ....Detail of free layer or additional film for affecting or biasing the free layer
324.2 ...Having tunnel junction effect
325 ..Having Anisotropic Magnetoresistive (AMR) sensor formed of multiple thin films
326 ..Having Giant Magnetoresistive (GMR) or Colossal Magnetoresistive (CMR) sensor formed of a single thin film
327 ..Having Anisotropic Magnetoresistive (AMR) sensor formed of a single thin film
327.1 ...Detail of transverse and longitudinal biasing
327.11 ....In barber-pole configuration
327.2 ...Detail of transverse biasing
327.21 ....Using a shunt
327.22 ....Using a soft adjacent layer
327.23 ....Using a permanent magnet
327.24 ....Using conductor
327.3 ...Detail of longitudinal biasing
327.31 ....Using a permanent magnet
327.32 ....Using exchange couple biasing
327.33 ....Using conductor
328 .Magnetostrictive head
114.01 .Read only detector using light for reading magnetically recorded information on tape
114.02 ..Light beam generator detail
114.03 ...Focus detail

114.04 ..Beam splitter detail
114.05 ..Readout detector detail
114.06 ...Focus detail
114.07 ...Circuit detail
114.08 ...Detector material detail
114.09 ...Mounting detail
114.1 ..Rotary head
115 .Flux scanning
116 .Cathode ray
117 .Hand-held
118 .Erase
119 .Gap structure details
120 ..Spacer material
121 ..Plural gaps
122 .Head surface structure
123 .Head winding
124 ..For cross-talk prevention
125 .Head core
126 ..Laminated
127 ..Nonmetallic
128 .Head accessory
129 ..Housing
130.1 ..Record separator
130.2 ..Record guide
130.21 ...Tape record
130.22 ....Rotating head
130.23 .....Helical scan
130.24 ......Head drum details
130.3 ..Pressure element
130.31 ...Tape record
130.32 ....Element mounting details
130.33 ....Element in tape container
130.34 ...Disc record
131 **RECORD MEDIUM**
132 .In container
133 ..For disk
134 .Tape
135 .Disk
136 .Drum
137 **MISCELLANEOUS**

CROSS-REFERENCE ART COLLECTIONS

900 **DISK DRIVE PACKAGING**
901 .Access time
902 .Storage density (e.g., bpi, tpi)
903 .Physical parameter (e.g., form factor)
904 ..Weight

FOREIGN ART COLLECTIONS

FOR 000 **CLASS-RELATED FOREIGN DOCUMENTS**

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collection listed below. These collections contain ONLY foreign patents or nonpatent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

FOR 202 **FLUID BEARING HEAD (360/102)**
FOR 203 .Flying head (360/103)
FOR 204 **HEAD MOUNTING (360/104)**
FOR 205 .For moving head into and out of transducing position (360/105)
FOR 206 .For shifting head between tracks (360/106)
FOR 207 .For moving head during transducing (360/107)
FOR 208 ..Signal transfer to and from head (360/108)
FOR 209 .For adjusting head position (360/109)
FOR 213 **MAGNETORESISTIVE OR MAGNETOSTRICTIVE HEAD (360/113)**
HEAD (340/110)
FOR 214 .Magneto optic (360/114)